III. REMARKS

Claims 1-20 are pending in this application. By this amendment, claims 1-9 and 12-18 have been amended. These amendments are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. 1.116(b) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal. Accordingly, Applicants respectfully request entry of this Amendment.

In the Office Action, claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 3, 4 and 15 of U.S. Patent No. 6,922,962, hereafter "692 Patent" in view of Tenev *et al*. (U.S. Patent No. 6,654,761), hereafter "Tenev," and further in view of Baker *et al*. (U.S. Patent No. 6,092,044), hereafter "Baker." Claims 1-20 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Tenev in view of Baker.

A. RESPONSE TO THE OFFICE'S COMMENTS REGRADING THE TERM TREE

In the Final Office Action, the Office has states that the limitation "tree" is not supported by the specification and should be replace by limitation "graph." While not necessarily agreeing

to the Office's statement regarding support for the limitation "tree" in the specification, Applicants have amended the claims to replace the limitation "tree" with the limitation "directed non-cyclical graph" or "graph". As the Office states in the Final Office Action that the limitation "tree" is considered as "graph", Applicants submit that no further search is needed.

B. REJECTION OF CLAIMS 1-20 UNDER 35 U.S.C. §103(a)

With regard to the 35 U.S.C. §103(e) rejection over Tenev in view of Baker, Applicants assert that the cited references do not teach each and every feature of the claimed invention. For example, with respect to independent claim 1, and similarly claimed in claims 8, 12 and 17, Applicants continue to submit that Tenev fails to teach or suggest a binding system for binding a graph observer that looks for matching node patterns with a directed non-cyclical graph. Instead, the passage of Tenev cited by the Office teaches "…an extra data structure for mapping from a pair of node Ids to a link ID, implemented as a standard heap; this extra data structure allows lookup and insertion of a link ID in time that is logarithmic in the number of links." Col. 8, lines 8-12. However, the data structure of Tenev simply "…makes it possible for every node and link in memory to be specified by an ID, which can be validated in constant time." Col. 8, lines 20-22. To this extent, Tenev does not teach or suggest that its data structure, which may include an extra data structure for mapping from a pair of node IDs to a link ID, looks for matching node patterns. Furthermore, the node IDs and link IDs of Tenev are not the graph themselves, but rather are identifiers that identify nodes and links of the graph data structure. Col. 8, lines 14-28.

In contrast, the claimed invention includes "…a binding system for binding a graph observer that looks for matching node patterns with a directed non-cyclic graph." Claim 1. As

such, the binding system as provided in the current invention does not simply map a pair of node Ids to a link ID as does the extra data structure in Tenev, but instead binds a graph observer that looks for matching node patterns with a directed non-cyclic graph. The logic, patterns, data and other information in these graph observers with node pattern/node observer pairings allow the present invention to more efficiently walk a pre-existing data graph. Thus, the binding system of the claimed invention is not taught or suggested by the mapping from a pair of node IDs to a link ID as found in Tenev. Baker does not cure this deficiency. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

With further respect to independent claim 1, and similarly claimed in claims 8, 12 and 17, Applicants continue to submit that Tenev also fails to teach or suggest binding node patterns that identify distinguishing node attributes to node observers that at least one of analyze and process a particular node to generate at least one node pairing. Conversely, the passage of Tenev cited by the Office states "[s]tructure 250 makes it possible for every node and link in memory to be specified by an ID." Col. 8, lines 20-21. However, none of the structure, node, link, and ID of Tenev is taught as either identifying distinguishing node attributes, as do the node patterns of the claimed invention, or at least one of analyzing and processing a particular node, as do the node observers of the claimed invention. Baker does not cure this deficiency. Accordingly, Applicants request that the Office withdraw the rejection.

With still further respect to independent claim 1, and similarly claimed in claims 8, 12 and 17, Applicants continue to submit that the Office is incorrect in its argument that Tenev teaches a pattern testing system. Applicants are unsure, based upon the Office action, exactly

which element of Tenev the Office equates with the node patterns of the claimed invention, but the three elements in the cited passage of Tenev are node, link and ID. The Office then cites a section of Tenev, which teaches "[t]he test in box 386 first tests the node's orient and map counts to determine whether the node was walked during the most recent orienting or mapping walk in box 306 in FIG. 7." Col. 12, lines 57-60. However, this passage of Tenev does not determine whether an encountered node matches any of the three elements mentioned by the Office with respect to the node patterns of the claimed invention, but rather tests the node's orient and map counts to determine whether the node was walked during the most recent orienting or mapping walk. Accordingly, nowhere in the passage cited by the Office or elsewhere does Tenev teach matching the data in a node to that of a node pattern. In contrast, the current invention has "…a pattern testing system for determining if an encountered node matches one of the node patterns." Claim 1. As such, the pattern testing system of the claimed invention does not merely determine whether a node has previously been walked as does the test of Tenev, but instead determines if an encountered node matches one of the node patterns. For the above reasons, the test of Tenev does not teach the pattern testing system of the claimed invention. Accordingly, Applicants request that the Office withdraw its rejection.

With yet still further respect to independent claim 1, Tenev fails to teach an event manager as alleged by the Office. Rather, as argued in a previous paper, the passage of Tenev cited by the Office teaches "…[t]he test in box 384 compares the last node ID with the saved top node ID, thus beginning an iterative loop that tests each node in list 232 until it finds one that can be removed." Col. 12, lines 54-56. This test determines whether if the node that is currently being tested for removal has a node ID that is the same as that of the saved topmost node, in

which case all of the nodes have been taken and there are no nodes that can be removed. Col. 13, lines 12-15. Thus the test in Tenev referred to by the Office simply indicates whether there are any more nodes to be examined and does not determine whether a node observer is bound to a matching node pattern. Furthermore, the passage of Tenev cited by the Office does not indicate that an event is generated. Nowhere does Tenev teach generating an encountered event when one of the node observers is bound to a matching node pattern.

In contrast, the current invention includes "…an event manager for generating an encountered event when one of the node observers is bound to a matching node pattern." Claim 1. As such, the event manager as included in the claimed invention does not simply test for the end of a loop as does the test in Tenev, but rather if one of the node observers is bound to a matching node pattern. Furthermore, unlike Tenev, the event manager of the claimed invention generates an encountered event. For the above stated reasons, the test that returns a null ID after all nodes have been taken in Tenev is not equivalent to the event manager for generating an encountered event when one of the node observers is bound to a matching node pattern as included in the claimed invention. Applicants assert that this contrast distinguishes the current invention from the prior art and places the application into condition for allowance.

With regard to the Office's arguments regarding dependent claims, Applicants herein incorporate the arguments presented above with respect to independent claims listed above. In addition, Applicants submit that all dependent claims are allowable based on their own distinct features. However, for brevity, Applicants will forego addressing each of these rejections individually, but reserve the right to do so should it become necessary. Accordingly, Applicants respectfully request that the Office withdraw its rejections.

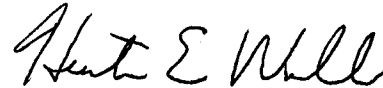## C. REJECTION OF CLAIMS 1, 4 and 8 UNDER OBVIOUSNESS TYPE DOUBLE PATENTING

Claims 1, 4 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting over claims 3, 4 and 15 of Application No. 10/039725 in view of Tenev. Initially, Applicants assert, as argued above, that Tenev fails to teach an event manager as included in the claimed invention. Furthermore, the absence, as argued above, of a binding system in Tenev eliminates the motivation or suggestion to combine 725 Application with Tenev. Furthermore, Applicants will, if necessary, address this in a later paper with, e.g., a terminal disclaimer, upon an indication of allowable subject matter.

IV. CONCLUSION

In addition to the above arguments, Applicants submit that each of the pending claims is patentable for one or more additional unique features. To this extent, Applicants do not acquiesce to the Office's interpretation of the claimed subject matter or the references used in rejecting the claimed subject matter. Additionally, Applicants do not acquiesce to the Office's combinations and modifications of the various references or the motives cited for such combinations and modifications. These features and the appropriateness of the Office's combinations and modifications have not been separately addressed herein for brevity. However, Applicants reserve the right to present such arguments in a later response should one be necessary.

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,

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